

Amendments to the Claims

Claims 1-99 (canceled).

Claim 100 (new): An ionization source comprising:

a sample inlet tube in fluid communication with an electrically conductive conduit, the sample inlet tube being electrically isolated from the electrically conductive conduit, wherein the conduit comprises a first end and a second end, the first end being configured to receive a substantially unionized sample from the sample inlet tube and the second end being configured to discharge the sample from the conduit;

an electrically conductive reference device positioned proximate the second end of the conduit, the reference device and the conduit having an ionization area therebetween, wherein the reference device and the conduit are configured to ionize at least a portion of the sample within the ionization area; and

an ion analyzer configured to receive at least some of the portion of the sample ionized within the ionization area.

Claim 101 (new): The source of claim 100 wherein the sample inlet tube is configured to convey the sample in a carrier fluid from the tube to conduit.

Claim 102 (new): The source of claim 100 wherein both the electrically conductive conduit and the reference device are coupled to a body, the body comprising openings configured to receive first and second contacts, the first contact being in electrical communication with the electrically conductive conduit and the second contact being in electrical communication with electrically conductive reference device.

Claim 103 (new): The source of claim 102 wherein the body couples the sample inlet tube to the conduit.

Claim 104 (new): The source of claim 100 wherein the reference device further comprises a discharge portion coupled to the reference device, the discharge portion being located between the second end of the conduit and the ion analyzer.

Claim 105 (new): The source of claim 104 wherein the discharge portion extends from the reference device to a point proximate the second end of the conduit.

Claim 106 (new): The source of claim 100 wherein the reference device further comprises a plurality of openings, the openings being configured to allow for the removal of sweep gas from the ionization area.

Claim 107 (new): The source of claim 106 wherein both the conduit and the reference device are coupled to a body, the body comprising at least one sweep gas removal opening in fluid communication with the plurality of openings of the reference device.

Claim 108 (new): The source of claim 100 wherein the reference device is located within the conduit.

Claim 109 (new): The source of claim 100 wherein a distance between the conduit and the reference device is greater than the Paschen distance.

Claim 110 (new): The source of claim 100 wherein the reference device comprises a metal comprising one or more of stainless steel, platinum, and gold.

Claim 111 (new): The source of claim 100 wherein the sample inlet tube comprises metal.

Claim 112 (new): The source of claim 100 wherein the conduit is electrically grounded.

Claim 113 (new): The source of claim 100 wherein the reference device and the conduit are configured to have different electric potentials applied thereto.

Claim 114 (new): The source of claim 100 wherein the interior diameters of the sample inlet tube and conduit are approximately the same.

Claim 115 (new): The source of claim 100 wherein a length of the conduit extending from the first end to the second end exceeds a height of the conduit.

Claim 116 (new): The source of claim 100 wherein the sample inlet tube is coupled to the conduit via the an insulative body.